UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

ESCO CORPORATION et al., Plaintiffs, vs. CASHMAN EQUIPMENT COMPANY et al., Defendants.	2:12-cv-01545-RCJ-CWH **ORDER**

This case arises out of the alleged infringement of patents for wear parts used to protect mining and excavation equipment. Before the Court are the parties' claim construction ("*Markman*") briefs (ECF Nos. 138, 140), responses (ECF Nos. 145, 146), and supplemental responses (ECF Nos. 149, 151).

I. BACKGROUND

Plaintiff ESCO Corporation ("ESCO") develops and manufactures engineered ground-engaging tools, wear parts, and replacement products used in various industrial applications including resource mining. (Am. Compl. ¶ 13, ECF No. 130). Mining and excavation equipment suffers considerable wear over time and it is a common industry practice to install wear parts, sometimes described as "tips," "teeth," or "plates," on the ground-engaging tools, such as mining shovels and loaders, in order to preserve the life of the equipment. The wear parts absorb the inevitable damage that would otherwise be suffered by the much more

expensive equipment. Once a wear part is worn down, it can be removed and a new wear part installed.

ESCO owns by assignment U.S. Patent No. 7,178,274 ("the '274 patent"), U.S. Patent No. RE43,693 ("the '693 patent"), U.S. Patent No. 8,122,621 ("the '621 patent"), U.S. Patent No. 5,241,765 ("the '765 patent"), and U.S. Patent No. 8,689,472 ("the '472 patent"). Plaintiff ESCO Canada owns by assignment U.S. Patent No. 7,640,684 ("the '684 patent"). These patents incorporate hammerless locking systems to facilitate the installation and removal of wear parts to ground engaging equipment. They cover a number of ESCO's products including the Torqlok®, Flangelok, and Nemisys® tooth systems. These systems make changing wear parts faster as well as safer than previous attachment options, which required the use of a large hammer to pound the wear parts on and off the protected equipment.

The Caterpillar Defendants ("CAT") manufacture and sell heavy machinery that also utilizes wear parts to protect the machinery's ground engaging equipment. (*Id.* ¶ 17). CAT's wear parts include particular lock assemblies known as the CapSure® system and the "Mechanically Attached Wear Plate System" ("MAWPS") that also allow the installation and removal of wear parts to be accomplished without a hammer. The Raptor Defendants manufacture and sell the Predator® system for heavy machinery and equipment that allegedly utilizes a version of CAT's locking system. (*Id.* ¶ 21). Plaintiffs claim that the CapSure®, MAWPS, and Predator® systems infringe the above referenced patents.

In response to Plaintiffs' allegations, the Caterpillar Defendants counterclaim that Plaintiffs are infringing on two of their patents—U.S. Patent No. 6,565,146 ("the '146 patent") and U.S. Patent No. 7,762,015 ("the '015 patent"). The '015 patent describes parts of the CapSure® product including the locking mechanism. (Answer ¶ 155, ECF No. 137). The

Caterpillar Defendants allege that ESCO's Nemisys® lock system infringes the '015 patent. The Caterpillar Defendants also allege that ESCO is infringing the '146 patent, which covers a particular configuration of a dump body for off-highway rubber-tired haulage vehicles. (*Id.* ¶¶ 148–50). The '146 patent teaches that the various pieces of the body be curved so as to reduce the amount of metal used in the body assembly, which decreases the overall weight of the body.

The parties request that the Court construe a total of twenty-nine terms or phrases in the eight patents-in-suit. Since some of the patents-in-suit share a specification with one another, the construction of certain terms will overlap. The Court has held a *Markman* hearing and has considered the parties' oral arguments as well as the claim construction briefing.

II. Legal Standard

The construction of terms found in patent claims is a question of law to be determined by the court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). "[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). Consequently, courts construe claims in the manner that "most naturally aligns with the patent's description of the invention." *Id.*

It is well-settled that when interpreting an asserted claim, the court must look first to the intrinsic evidence. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Thus, the first step in claim construction is to look to the language of the claims themselves. *Id.* "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which

the patentee is entitled the right to exclude.'" *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

A disputed claim term should be construed in light of its "ordinary and customary meaning," which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* In some cases, the ordinary meaning of a disputed term to a person of skill in the art is readily apparent, and claim construction involves "little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

Moreover, "a district court is not obligated to construe terms with ordinary meanings, lest trial courts be inundated with requests to parse the meaning of every word in the asserted claims." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). Claim construction is not and should not be "an obligatory exercise in redundancy." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). However, "[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *O2 Micro*, 521 F.3d at 1362.

Claim construction might also deviate from the ordinary and customary meaning of a disputed term if: (1) "a patentee sets out a definition and acts as his own lexicographer"; or (2) "the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Indeed, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specifications." *Phillips*, 415 F.3d at 1313.

"[I]t is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Vitronics*, 90 F.3d at 1582. "[T]he specification contains a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it. Thus, the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id.*

Courts can also look to the prosecution history as part of the intrinsic record to determine how the Patent Office and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. Yet the prosecution history lacks the clarity of the specification and is often less useful for claim construction purposes. *Id.*

Finally, "[a] court may, in its discretion, receive extrinsic evidence in order to aid the court in coming to a correct conclusion as to the true meaning of the language employed in the patent." *Markman*, 52 F.3d at 980 (internal quotations and citations omitted). Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Id.* Although such evidence may aid the court in construing claim terms, "it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1319. Thus, "while extrinsic evidence can shed useful light on the relevant art, . . . it is less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id.* at 1317 (internal quotations omitted).

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III. DISCUSSION

A. ESCO Canada's U.S. Patent No. 7,640,684

The parties dispute the construction of three terms in claim 22 and claim 27 of the '684 patent: "opening being through the retainer," "pin," and "positioned." ESCO argues that each of these terms should be given their plain and ordinary meaning and do not need additional construction. Defendants contend that the claim language and context provided by the specification of the '684 patent demonstrate that each of these terms has a particular meaning as used in the patent and should be construed accordingly.

1. "opening being through the retainer"

Defendants propose that the phrase "opening being through the retainer" be construed as an "[o]pening being a hole with a continuous outer boundary through the retainer." (Amended Joint Claim Construction and Pre-Hearing Statement 4, ECF No. 135) ("AJCCPHS"). ESCO argues that the phrase is composed of easily understood words and as such it does not require construction. Although the Court agrees that the phrase is generally understandable, the claim language and specification indicate that the "opening" is an enclosed hole that runs through the retainer, from one end to the other. As such, the Court finds that the phrase should be construed to mean "opening being a fully enclosed hole that extends through the retainer."

Claim 22 teaches that "a retainer [is] mounted within the hole in the wear member, the retainer having an opening, the opening being through the retainer and the retainer having a first end proximate the cavity and an opposite second end" and that a pin is "positioned *within* the opening in the retainer to engage the support structure and secure the wear member to the support structure." ('684 Patent 8:27–26, ECF No. 130-1 (emphasis added)). This indicates that the opening receives the pin and is the passage through which the pin passes through the retainer.

Likewise, claim 27, which depends from claim 22, states that "the pin is rotatable *within* the hole of the retainer." (*Id.* at 8:48–49 (emphasis added)).

The specification explains further that "[w]hen fully inserted into the retainer, the lock pin extends through the opening in the wear member 1 and into the recess 7 in the support structure 3." (*Id.* at 5:9–12). In order for the pin to enter the opening and then pass completely through the retainer such that it extends through the opening and into the recess beyond, the opening must not only be an enclosed hole, but also it must pass completely through the retainer. Otherwise, the pin could not enter the recess of the abutting support structure. This conclusion is further supported by the depictions of the preferred and alternative embodiments in which the "opening" in the retainer is clearly depicted as having a fully enclosed hole that passes completely through retainer. (*See id.* at Figs. 4, 8, 9). The Court therefore finds that its adopted construction appropriate.

2. "pin"

Defendants argue that "pin" cannot simply be left to its plain and ordinary meaning in claim 22 and claim 27 because such a reading would expand the '684 patent beyond its intended scope. Defendants propose that "pin," as it is used in these claims, should be construed to mean "a generally circular elongated body which is externally threaded." (AJCCPHS 4). The Court agrees with Defendants.

Claim 22 teaches "a pin positioned within the opening in the retainer to engage the support structure and secure the wear member to the support structure." ('684 Patent 8:34–35). The pin is not described further in the claim language, leaving a person of ordinary skill in the art to search for additional meaning in the specification. *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) ("The descriptive part of the specification aids in ascertaining the

scope and meaning of the claims inasmuch as the words of the claims must be based upon the description.").

First, the abstract of the patent refers to the pin as "an elongated body which is externally threaded." The abstract adds that the pin "is screwed into the pin retainer by the application of torque force from a standard ratchet tool." Thus, from the outset the specification identifies the pin, as used in the '684 patent, as being threaded. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1342 (Fed. Cir. 2001) (starting claim construction analysis with the description contained in the patent's abstract).

Next, the written description explicitly states that "lock pin 13 of the *present invention* is comprised of a generally circular elongated body as shown in FIG. 5. The pin 13 is threaded externally." ('684 Patent 4:40–42 (emphasis added)). This indicates that the patentee understood the invention to require a threaded pin in order to function, thereby limiting the scope of the claims. *See Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1137 (Fed. Cir. 2011). Although the language "present invention" is used only once, its presence together with the description provided in the specification indicates that the patentee intended the pin to be threaded. There is just no explanation in the written description to direct one of ordinary skill on how the lock could function sans a *threaded* pin.

Rather, the specification discusses the pin's threaded nature at length. For example, it states that "[t]he lock pin 13 is placed in the pin retainer 9 by screwing it into the retainer." ('684 Patent 4:67–5:2). To unlock the wear member from the support structure, the user is instructed to "rotate the pin 13 to loosen it from the pin retainer 9. The lock pin 13 is unscrewed from the pin retainer 9 . . . ." (*Id.* at 5:53–25). The pin retainer, whose internal shape must correspond with the pin in order to "receive" the lock pin, is described as "threaded," (*id.* at 4:4), indicating

that the pin itself must likewise be threaded. In fact, the description explains that the pin's "threaded portions engage the matching threads on the interior of the pin retainer as shown in FIG. 6." (*Id.* at 4:42–44).

In addition, each figure depicting the pin shows an elongated body with external threads. And the specification does not disclose a pin that is not threaded or that could be kept within the retainer without threads or some sort of mechanical slope. *See Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (emphasizing that the figures were consistent with the specification's description of the invention consisting of a one-piece body rather than multiple-piece bodies despite the broader claim language).

Finally, the specification is clear that the lock taught in the '684 patent functions by applying "torque force" to the pin so that it passes through the retainer and into the passage beyond. ('684 Patent 2:50–53). Indeed, the invention is called a "torque locking system for fastening a wear member to a supporting structure." And as previously stated, the description simply provides no direction to a person of ordinary skill in the art of how to construct a torque system within the scope of the '684 patent without using a threaded pin. *See Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1374 (Fed. Cir. 1999) (citation omitted) (stating that patents must include "sufficient disclosure . . . to teach those of ordinary skill how to make and use the invention as broadly as it is claimed").

ESCO relies on the doctrine of claim differentiation to argue that the pin identified in claim 22 cannot be construed as threaded. Claim differentiation "stems from 'the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope.'" *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368–69 (Fed. Cir. 1998) (quoting *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d

968, 971–72 (Fed. Cir. 1999)). "Although the doctrine is strongest where the limitation sought to be 'read into' an independent claim already appears in a dependent claim, there is still a presumption that two independent claims have different scope when different words or phrases are used in those claims." *Id.* (internal quotations and citations omitted).

ESCO argues that since other independent claims within the patent explicitly identify "a threaded pin member," (*see id.* at 6:9–10, 6:50–51, 7:49–50), the fact that this limitation is not included in the asserted claim means that the patentee intended for it be omitted from claim 22. ESCO further argues that construing the pin taught in claim 22 as threaded would make claim 28, a subsequent dependent claim, redundant since it further limits the pin and retainer taught in claim 22 as having "matching threads," (*see id.* at 8:48–50).

These arguments are not without merit. However, claim differentiation "only creates a presumption that each claim in a patent has a different scope; it is 'not a hard and fast rule of construction.'" *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000) (quoting *Comark Comm'cns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998)). The Federal Circuit has been clear that "the doctrine of claim differentiation can not broaden claims beyond their correct scope, determined in light of the specification and prosecution history and any relevant extrinsic evidence." *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480 (Fed. Cir. 1998); *see also Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1302 (Fed. Cir. 1999) (holding that claim differentiation does not override clear statements of scope in the specification and prosecution history). The Court finds that application of the claim differentiation doctrine here would do just that—broaden claim 22, and the term "pin," beyond its correct scope.

As discussed above, the specification consistently and repeatedly refers to the "pin" as being threaded so that it can be screwed into the retainer. (*See, e.g.*, '684 Patent 4:40–45). And although the word "threaded" does not appear in the asserted claims, it is clear from the written description that the term "pin" should be construed to mean "an elongated body that is externally threaded."

The Court does not reach this conclusion lightly. It is fully aware that claim terms generally should not be limited by the description of a preferred embodiment. *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1273 (Fed. Cir. 2001). And that the Court must walk a "fine line between reading a claim in light of the specification and importing a limitation from the specification into the claim." *Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1255 (Fed. Cir. 2011).

But the Court's construction here does *not* result from imbuing the claim with a limitation presented in the preferred embodiment or best mode. The Court's construction is instead based on the only reading of the claim language that is harmonious with the specification. *Bell Atl.*, 262 F.3d at 1270. The construction given to a term "can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most *naturally* aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw*, 158 F.3d at 1250 (emphasis added). A patent's description must "enable a person of ordinary skill in the art to make and use the *claimed* invention." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1362 (Fed. Cir. 2010) (emphasis added). It is for this reason that courts "rely heavily on the written description for guidance as to the meaning of the claims" when conducting claim construction. *Phillips*, 415 F.3d at 1317.

If the Court left "pin" to its plain and ordinary meaning in claim 22 as ESCO suggests, then the scope of the '684 patent would encompasses any type of locking system that uses a pin passing through a retainer. That is certainly not what the patentee or ESCO intended, given that ESCO secured a number of subsequent patents that arguably would fall within the purview of such a broad construction. Thus, while claim 22 leaves open the possibility that the recited "pin" may not be threaded, "the specifications tell us otherwise." *Retractable Techs, Inc.*, 653 F.3d at 1305. The Court construes "pin" to mean "an elongated body that is externally threaded."

3. "positioned"

Defendants propose that "positioned" in claim 22 be construed to mean "[s]crewed into the opening in the retainer to engage the recess in the support structure." The Court, however, finds that no construction is necessary. The Court is confident that a person of ordinary skill in the art would understand what is meant by the term "positioned," especially given the Court's construction of the term "pin." "Positioned" is therefore left to its plain and ordinary meaning.

B. ESCO's U.S. Patent No. 7,178,274

The '274 patent represents another hammerless lock design in which a locking member containing a non-circular shank interacts with a resilient part and that can be rotated relative to the resilient part. The asserted claim 12 depends from claim 9, and the parties dispute the construction of terms appearing in both claims. Defendants have identified five terms that they would like the Court to construe: "lock," "body," "shank," "non-circular cross sectional configuration," and "resilient part."

1. "lock"

Defendants argue that "lock" has a very particular meaning as it is used within the '274 patent. They propose that the term be construed as "[a] device for securing a wear member to a

base component consisting of a body and rotatable lock member." (AJCCPHS 7). ESCO contends that "lock" is clear on its face and needs no construction, or that if the Court determines construction is necessary, "lock" should be construed to mean a "device that secures two or more components together." (*Id.*).

The Court agrees that "lock" as used in the '274 patent refers to a specific locking assembly. However, the Court finds that no construction is necessary for two reasons. First, the language of claim 12 explicitly states that the "lock" discussed therein is the "lock of claim 9." And second, claim 9 describes the patented lock in such detail that anyone of ordinary skill in the art would understand the limitations of the claimed invention.

As stated, claim 12 depends from claim 9, and it expressly states that the "lock" discussed in the claim is "[t]he lock of claim 9." It follows that a person skilled in the art would then look to claim 9 to determine the meaning of "lock" as used in claim 12. Claim 9 provides a detailed description of the lock assembly being claimed by the patentee. It states:

> A lock for releasably coupling a wear component to an excavator, the lock comprising a body and a locking member secured to the body for movement between a release position and a locking position, the locking member including a shank having a non-circular cross sectional configuration, the body including a resilient part having a hole for receiving the shank, the resilient part being in generally a relaxed state when the locking member is in the release and locking positions, and the resilient part being in a stretched state when the locking member is moving between the release and locking positions.

('274 patent 11:51–61, ECF No. 130-2). Given this specific definition, the Court finds that a person attempting to ascertain the scope of the '274 patent would understand that "lock" as used in claim 12 has its ordinary meaning as specifically limited by the description in claim 9.

For the public to determine whether a particular lock assembly infringes on claim 12 of the '274 patent, one would need to look no further than the description of the lock offered in claim 9. *Innova/Pure Water, Inc.*, 381 F.3d at 1116 (stating that a court should look to the claims

themselves to determine how a person of skill in the art would understand a particular claim term). The Court, therefore, finds that additional construction overlaid upon what is already provided in claim 9 would be redundant and more confusing than helpful. *See Unwired Planet, LLC v. Square Inc.*, No. 3:13-cv-00579-RCJ-WGC, 2014 WL 4966033, at *7 (D. Nev. Oct. 3, 2014) (finding that additional construction of certain terms would be an "exercise in redundancy" based on "the surrounding claim language that already limits the claims in the way Defendant proposes to do by limiting the meanings of the terms").

2. "body"

Defendants argue that "body" should be construed to mean "part of a lock that contains a ridged retaining member and a resilient member, but not a locking member." (AJCCPHS 7). ESCO contends that no construction is necessary. (*Id.*). The Court agrees with ESCO. Like the term "lock" discussed above, the term "body" requires no construction because, in the context of the '274 patent, its plain and ordinary meaning would be clear to a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1313–14 (explaining that a person of ordinary skill in the art is deemed to read the claim term in the context of the particular claim in which the disputed term appears).

Defendants' construction is unnecessary and redundant to what claim 9 already provides. Claim 9 defines "body" as "a resilient part having a hole for receiving the shank . . . ." ('274 Patent 11:56–56). It is clear that the term "body" does not include a locking member because the claim language itself states that the "lock" is comprised of "a body" and "a locking member." (*Id.* at 52). It would therefore be redundant to construe body to mean a part of a lock that does not include a locking member since the context provided by claim 9 already describes the "body" and the "locking member" as separate components. Defendants' construction is rejected.

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3. "shank"

Defendants suggest that the term "shank" must be construed as a "straight, narrow object that is longer than it is wide." (AJCCPHS 7). ESCO argues that no construction is necessary because "shank" has a commonly understood meaning. The Court again agrees with ESCO. "Shank" is best given its ordinary meaning.

The specification describes the "shank" as part of a "stem" that is shaped in such a way that "the resilient material deforms when the stem is rotated." ('274 Patent 3:6–8). This comports with the common understanding of what a shank is, and there is no indication in the claim language or the specification that any additional construction of the term is necessary. Indeed, the context provided by the claim and specification renders any further construction redundant. (*See id.* at 11:55–57 (explaining that the "shank" has a particular configuration and is received by the hole in the resilient part)).

4. "non-circular cross sectional configuration"

Defendants propose that "non-circular cross sectional configuration" be construed as "cross sectional configurations that do not form a circle or follow a substantially circular arc." (AJCCPHS 8). ESCO, on the other hand, argues that this phrase is easily understood. In essence, the parties disagree over what is meant by "non-circular." ESCO's position is that it includes anything that does not form a circle, while Defendants contend that such a reading of the term is too broad.

The purpose of the non-circular cross section is to deform the resilient material "when the stem is rotated." ('274 Patent 3:6–8). The written description of the '274 patent teaches that "[s]tem 90 preferably has a shank portion having a square cross section along most of its length to match the shape of the axial passage 88, however, other non-circular shapes could be used."

(*Id.* at 6:49–52). The description further explains that "[a]s with lock 18, stem 290 includes a shank portion 297 with a generally square cross section (or other non-circular shape) that is received in a square shaped passage." (*Id.* 9:28–31). Accordingly, some non-circular design, besides the square cross section described in the preferred embodiment, is contemplated by the specification so long as it deforms the resilient material when rotated. An oval, for example, most certainly follows a substantially circular arc, yet such a design would work to deform the resilient material upon rotation.

Defendants nonetheless argue that their construction is proper given the relevant prosecution history. During the process of getting the Patent and Trademark Office's approval of the '274 patent, ESCO was required to distinguish its invention from U.S. Patent No. 6,108,950 (filed Mar. 8, 1999) ("Ruvang"). (*See* Ex. J4, ECF No. 139-4, at 440). In an effort to distinguish the lock assembly taught in claim 9 from Ruvang, ESCO emphasized the non-circular nature of the shank. ESCO explained to the patent examiner that the prior art was different because Ruvang covers a "force exerting member" that includes "a cylindrical body" that "does not form a 'non-circular' cross section." (*Id.*). Defendants argue, however, that the cylindrical body described in Ruvang does not form a perfect circle and thus, for ESCO's position during prosecution to be consistent with its current position, the term "non-circular" must exclude constructions that follow a substantially circular arc.

While "the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution," *Phillips*, 415 F.3d at 1317, Defendants' arguments prove too much here. The Ruvang's cylindrical body forms a circle with the exception of a "resilient key structure" that protrudes from it. It is this protrusion that Defendants use as the basis for

their contention that ESCO distinguished cross sections that follow a substantially circular arc as "circular" from those that do not follow such an arc, which would be termed "non-circular." After all, the argument goes, if the Ruvang's cylindrical body with its key structure is circular notwithstanding its imperfect circular shape, then the term "non-circular" must only encompass those constructions that are not *substantially* circular.

What Defendants overlook is that the key structure that protrudes from the Ruvang cylindrical body is not actually part of the body itself. Rather, it is a component that "has a resilient inner side portion" that is anchored to the cylindrical body, which compresses into the body when rotated. (*See* Ruvang 7:16–32). With this additional understanding of Ruvang, ESCO's explanation to the patent examiner makes sense. The shank of the '274 patent is a single structure that fits into the resilient part of the lock and deforms the resilient part as it is rotated. ('274 Patent 3:6–8). Conversely, in Ruvang, it is not the component into which the key structure fits that is deformed but it is the key structure itself. ESCO, then, accurately argued that its non-circular cross section is of paramount importance because otherwise the resilient structure would not be deformed, whereas in Ruvang the cylindrical shape was unimportant because the key structure itself was the component being deformed.

Therefore, the Court finds that Defendants' reliance on the prosecution history here is not dispositive that the term "non-circular" requires the limitation that they propose. Because the specification expressly considers that other non-circular configurations of the shank could perform the requisite function, such as an oval, the claim language does not limit the '274 patent to the preferred embodiment, and the Court finds that "non-circular cross sectional configuration" should be given its plain and ordinary meaning.

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5. "resilient part"

Defendants propose that "resilient part" be construed to mean "part of a body that returns to its original shape after being deformed." (AJCCPHS 8). ESCO argues that its plain and customary meaning would be understood by one of ordinary skill in the art. (*Id.*). The Court finds that a construction of the term "resilient part" is warranted. The claim language does not explain the characteristics of the "resilient part" as precisely as it does with other disputed terms such as "lock" and "body." The Court further finds that Defendants' proposed construction is consistent with both the claim language and the specifications.

It is undisputed that the "resilient part" forms a portion of the "body." (*Id.* 11:56 (stating that "the body include[es] a resilient part")). The specification, when read in light of claim 9, also makes it clear that the "resilient part" must function to allow the lock to move between the release and locked positions. Claim 9 reads "[a] lock for releasably coupling a wear component to an excavator, the lock comprising a body and a locking member secured to the body for movement between a release position and a locking position." ('274 Patent 11:51–54). The specification explains that "the non-circular stem . . . is received into the aperture of the resilient member . . . . The resilient material deforms when the stem is rotated. The resilient material functions to resist unwanted movement of the locking member but permit actuation of the lock in an easy, reliable and cost-effective manner . . . ." (*Id.* at 3:4–11). Furthermore, "[w]hen the user rotates the locking member, the corners of shank portion 97 stretch the sidewalls of [the resilient member]." (*Id.* at 7:41–43). The "resilient part" may therefore be composed of "a compressible foam or the like" so that it may revert to its initial shape thereby resisting additional movement. (*Id.* at 7:54–55).

Based on the written description, the Court finds Defendants' proposed construction of "resilient part" quite consistent with what is taught in the '274 patent. The "resilient part" is a part of the body as explained above, and it must return to its original shape after being deformed. Otherwise, the lock described in claim 9 could not move between the release and locking positions because the resilient part would fail to resist additional "unwanted movement of the locking member." (*Id.* at 3:8–10). Thus, the Court finds that "resilient part" should be construed as "a part of a body that returns to its original shape after being deformed."

C. ESCO's U.S. Patent No. RE43, 693

The '693 patent is a continuation of the '274 patent, and the two patents share the same specification. ESCO asserts claim 26 and claim 29 of the '693 patent, both of which ultimately depend from independent claim 22. The parties dispute over the meaning of the terms: "peripheral outline," "lock," "locking member," "opening defining a passage," and "non-circular."

1. "peripheral outline"

Defendants argue that "peripheral outline" should be construed to mean "outer boundary having a shape and size that allows insertion of a lock through the hole." (AJCCPHS 8). ESCO disagrees and contends that the terms should be given its plain and ordinary meaning. (*Id.*). The Court agrees with Defendants that the meaning of "peripheral outline" is unclear as used in the claim language, and therefore it needs construction.

Claim 22 covers "a wear part having a socket to receive the nose, and a hole extending through the wear part to open in the socket, the hole having a *peripheral outline* . . . ." ('693 Patent 12:7–10, ECF No. 130-3 (emphasis added)). No additional context is provided in the

claim language for what the inventor means by "peripheral outline," but the specification provides clarity.

The summary of the invention explains that "[t]he movable locking member can be shifted between a first position where it lies within the bounds of the supporting body or base member for receipt of the lock within the assembly, and a second position where it at least partially extends outside of the bounds of the base member to positively retain the lock within the assembly." (*Id.* at 2:48–53). In other words, the purpose of the hole in the base is to hold the movable locking member so that the lock is retained within the assembly.

This understanding is further supported by the written description as well as the other claims. For example, the specification states that "[i]n use, lock 218 is placed through hole 252 and into pocket 232," (*id.* at 9:48–49), and to function, that "lock is inserted into [the] pocket," (*id.* at 9:51). Moreover, both independent claims 1 and 16 teach that the "lateral projection" of the lock is "received through the hole and at least partially outside of the peripheral outline of the hole." (*Id.* at 10:50–52, 11:43–47). Therefore, the Court finds that Defendants' construction is consistent with claim 22 and the description of the invention as taught by the specification. The Court construes "peripheral outline" to mean "a shape and size that allows insertion of a lock through the hole."

2. "lock"

As under the '274 patent, the Court finds that "lock" as used in claim 22 of the '693 patent needs no construction. Asserted claims 26 and 29 depend from claim 22 and require an evaluation of how claim 22 uses and describes the term "lock." The meaning of "lock" is provided in claim 22 and therefore the Court finds that any additional construction would be redundant. *See U.S. Surgical Corp.*, 103 F.3d at 1568.

3. "locking member"

Defendants argue that "locking member" as used in claims 26 and 29 requires construction. They propose that it be construed as "[a] component of a lock that has a straight, noncircular section that secures the wear member to the base." (AJCCPHS 8). ESCO maintains that no construction is necessary, or that if it is, the term should be construed to mean a "movable part of the lock." (*Id.* at 9). The Court agrees with Defendants that "locking member" should be construed, but the Court believes ESCO's suggested definition is too narrow while Defendants' is too broad.

Neither dependent claims 26 and 29 nor independent claim 22 adequately describe what the term "locking member" includes. Claim 22 teaches that the "locking member" is a part of the lock and that the "resilient member" has an opening for receiving the locking member, the locking member being "rotatable." ('693 Patent 12: 12–15). The specification explains that the "locking member" "is selectively movable between locked and release position to hold or release the lock from the assembly," (*id.* at 3:4–6), and that it "has a non-circular stem that is received into the aperture of the resilient member," (*id.* 3:14–16). It is further explained that the locking member "is provided with a head that includes structure for (i) effecting rotation of the locking member, (ii) pulling the lock from the joined components, and (iii) facilitating installation, retention and removal." (*Id.* at 3:37–42).

Based on these descriptions in addition to the described function presented in claim 22, the Court finds that the proper construction of the term "locking member" is "the movable part of a lock that has a non-circular stem." This construction reflects the particular characteristics as shown in the specification of the '693 patent and is consistent with the term's use in claim 22, as well as the language in the other claims.

4. "opening defining a passage"

Defendants argue that the term "opening defining a passage" does not properly inform one skilled in the art regarding the scope of the phrase "the resilient member including an opening defining a passage for receiving the locking member . . . ." (AJCCPHS 9). ESCO believes that the meaning is clear and that no construction is needed. As with a similar phrase that appears in the '684 patent, the Court finds that this term requires construction and should be construed to mean "a fully enclosed passage that extends through the retainer."

The claim language and specification indicate that the "passage" is designed to receive the locking member. ('693 Patent 12:12–14). The opening and the locking member must therefore correspond in their shapes. Moreover, "the locking portion of the locking member is positioned axially beyond the body to minimize the required size of the opening in the wear part . . . ." (*Id.* at 3:7–9). This suggests that the opening in the resilient member must be enclosed in order for the locking portion of the locking member to be retained as it extends past the locking member. Figures 6, 7, and 11 all support the position that the opening is composed of an enclosed hole running completely through the resilient part. Furthermore, Figure 24 shows that the opening in the resilient part extends through the part because the end of the non-circular stem is clearly visible. Figure 26 likewise demonstrates that the stem of the locking member is to pass beyond the resilient part, which further demonstrates that the passage runs clear through.

While ESCO may argue that these specifications and figures represent but one embodiment of the '693 patent, it is clear that no other embodiment is contemplated in which the passage of the resilient member is not fully enclosed and extending from one end to the other. Indeed, the other claims within the '693 patent describe the "lateral projection" of the locking member being "received through the hole and at least partially outside the peripheral outline of

the hole." (*Id.* at 10:44–52, 11:45–47). The Court, therefore, finds the above construction necessary and proper.

5. "non-circular"

The parties again disagree on what the term "non-circular" means. While ESCO argues for the plain and ordinary meaning, Defendants contend that it should be construed to mean "does not form a circle or follow a substantially circular arc." (AJCCPHS 9). Consistent with the Court's conclusion under the '274 patent, the Court finds that "non-circular" in claim 22 also needs no construction.

D. ESCO's U.S. Patent 8,122,621

The '621 patent builds upon ESCO's other hammerless lock systems by providing a locking mechanism that is presented as an "integral part" of the wear member. Defendants request that the Court construe or otherwise evaluate four terms arising from multiple claims: "lock," "integrally connected/integrally secured," "hold position," and "alternatively secured."

1. "lock"

Defendants propose that "lock" be construed to mean "a device that is pivoted to secure a wear member to a base." (AJCCPHS 6). ESCO's position is that the term needs no construction as a person with ordinary skill in the art would understand what is meant. On this point, the Court disagrees with ESCO.

Unlike the other patents-in-suit discussed up to this point in which the term "lock" was defined and given meaning within the claims that utilized the word, the claims of the '621 patent do not limit or otherwise define what constitutes a "lock." The Court does not believe that the scope of the '621 patent can be so broad as to encompass any lock assembly, but that the inventors contemplated a specific mechanism that would permit the lock to become an integral

part of the wear member. *See Retractable Techs., Inc.*, 653 F.3d at 1305 (stating that claims should be construed "to capture the scope of the *actual* invention") (emphasis added). That said, the Court finds Defendants' suggested construction to be a fair and accurate representation of the lock assembly described in the specification.

It is evident that a primary feature of the lock claimed in the '621 patent is its ability to pivot from the hold position to the release position. In fact, without the specification's discussion regarding how the lock is formed using a pivot support to permit pivotal movement, a person skilled in the art would have no idea how to construct a locking mechanism that is an integral part of the wear member. The summary of the invention explains that "[in] another aspect of the invention, the lock is formed with a pivot support and a biasing member to permit not only pivotal movement of the lock between hold and release positions, but also a shifting movement to permit latching in the hold position and/or release position." ('621 Patent 3:13–17, ECF No. 130-4). The lock is further described as having "a narrow end 103 . . . [which] is formed as a pivot member 113, which preferably defines an arcuate recess to cooperate with bulb 93 on end wall 85 *to enable the lock to pivotally swing between hold and release positions.*" (*Id.* at 9:55–60 (emphasis added)).

The lock's pivoting nature is not just an element of the preferred embodiment, but it appears to actually be the only way to practice the claims given the context provided by the specification. The written description contemplates a similar embodiment of the lock where the "[p]ivot members 93, 113 could be reversed so that the bulb is formed on lock 17 and the recess on wear member 12, *or have a different construction that defines the pivot axis*." (*Id.* at 9:60–63 (emphasis added)). The specification also provides that "[l]ock 17 further includes notches 122, 124, 126 which are provided to aid removal of lock 17 from the assembly (FIGS. 18 and 22).

Specifically, a tool T is used to engage notches 122, 124, 126 . . . as needed *to pivot lock* 17 *from the hold position to the release position.*" (*Id.* at 11:14–18 (emphasis added)). There is simply no way to separate the lock's pivoting nature from its definition, and therefore the Court finds that "lock" as used in the asserted claims of the '621 patent should be construed to mean "a device that is pivoted to secure a wear member to a base."

ESCO argues that the alternative embodiment contemplated by the '621 patent undermines this conclusion. ESCO is wrong. While the Court acknowledges that Figure 34 to the '621 patent depicts a lock that rotates rather than pivots, the Court sees no possible way how the lock depicted in Figure 34 is consistent with the '621 patent's claims and specification. The specification offers no explanation of how Figure 34 embodies a lock that is integrally secured to the wear member and that is "releasably securable in the lock opening in the wear member in both hold and release positions to reduce the risk of dropping or losing the lock during installation." (*Id.* at 2:58–61). It is clear that the "spool" requires that the "wedge" be "drawn into the assembly" in order to secure the wear member to the base. (*See id.* at 11:54–64). To remove the wear member, the "wedge" must be unscrewed and presumably removed. This embodiment therefore does not represent a lock that forms an integral unit with the wear member, and it ultimately looks out of place in the '621 patent.[1]

As the Court acknowledged previously, claims are not to be limited by a preferred embodiment nor "inferences drawn from the description of a preferred embodiment." *Bell Atl.*, 262 F.3d 1258, 1273. However, where, as here, a "full understanding of what the inventors actually invented" cannot be ascertained from the claim language alone, *Phillips*, 415 F.3d at 1316 (citation omitted), the specification usually offers the necessary context, *SciMed Life Sys.*,

[1] The Court further notes that based on the written description of the alternative embodiment and Figure 34, it appears that the "spool" and "wedge" design is consistent with the locking assembly claimed in the '684 patent comprised of a "pin" and a "retainer."

Inc., 242 F.3d at 1344 (stating that "the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format").

The inventors of the '621 patent invented a lock that is an integral part of the wear member. Its integral nature is accomplished by a lock design that pivots about an axis parallel to the wear member itself. (*See infra* Part III.E.5). ESCO cannot simply broaden the scope of its patent by ignoring what is taught in the specification. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1347–48 (Fed. Cir. 2004) (emphasizing that claims must be interpreted in light of the specification where the specification "repeatedly and consistently" described a particular feature of the invention).

2. "integrally connected/integrally secured"

Defendants argue that the terms "integrally connected" and "integrally secured" require construction and propose that they be construed to mean "connected so as to form a single piece or unit." (AJCCPHS 6). ESCO contends that these terms should be given their plain and ordinary meaning. The Court agrees with ESCO. The word "integral" has a well-known meaning and a person of ordinary skill in the art would understand the terms "integrally connected" and "integrally secured" given the context provided in the claims and specification. As such, any construction by the Court would be an exercise in redundancy. *U.S. Surgical Corp.*, 103 F.3d at 1568.

3. "hold position"

Defendants would also like the Court to construe the term "hold position," proposing that it mean a "position in which at least a portion of the lock enters a cavity in the base to firmly fasten the wear member to the base." (AJCCPHS 6). The Court agrees with ESCO that no

construction is necessary. The independent claim from which the asserted dependent claims depend adequately defines "hold position," and the Court sees no reason to impose any additional meaning or limitation than what already appears in the claim language.

4. "alternatively secured"

Defendants contend that the term "alternatively secured" is indefinite. ESCO argues that the term is not indefinite and that it can be given its plain and ordinary meaning. (AJCCPHS 6). The Court agrees with ESCO that the term is not indefinite, but finds that construction is necessary due to the confusion caused by the term as it appears in the asserted claim.

"A claim is considered indefinite if it does not reasonably apprise those skilled in the art of its scope." *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1383–84 (Fed. Cir. 2005) (citing *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1217 (Fed. Cir. 1991)). To determine definiteness, a claim is "to be read in light of the patent's specification and prosecution history." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128 (2014). A claim is found indefinite "only if the claim is insolubly ambiguous, and no narrowing construction can properly be adopted." *Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F.3d 1367, 1374 (Fed. Cir. 2008) (quotations and citations omitted). Because the Court finds that a narrowing construction resolves the ambiguity of the term "alternatively secured," the term and the claim are not indefinite.

Claim 13, from which claim 15 depends, teaches "a lock integrally connected to the wear member and moveable without a hammer between a hold position . . . and a release position . . . wherein the lock remains secured to the wear member in the release position." ('621 Patent 13:40–46). Claim 15 teaches further "[a] wear assembly in accordance with claim 14 [which depends from claim 13] wherein the lock is alternatively secured to the wear member in the hold

and release positions regardless of whether the base is received in the socket or in the orientation of the wear member." This additional context suggests that "alternatively secured" means secured either in the "release position" as discussed in claim 13 or in the hold position. Indeed, the claim language demonstrates that the lock remains connected to the wear member when it is in the release position, or *alternatively*, when it is in the hold position.

This understanding of "alternatively secured" is also supported by the specification. The summary of the invention states that "[i]n another aspect of the invention, the lock is releasably securable in the lock opening in the wear member *in both hold and release positions* to reduce the risk of dropping or losing the lock during installation." (*Id.* at 2:58–61). The detailed description further explains that "[w]ide end 105 includes a latch formation 115 that cooperates with end wall 87 *to retain lock* 17 *in hold and release positions*." (*Id.* at 9:63–65).

This additional context proves that "alternatively secured" is not only definite, but that it is properly construed to mean "wherein the lock is secured to the wear member in either the hold or release positions." The Court finds that this construction accurately reflects the scope of the asserted claim.

E. ESCO's U.S. Patent No. 8,689,472

The '472 patent is a continuation of the '621 patent and these two patents share a common specification. Many of the terms for which Defendants seek construction under the '472 patent are terms that the Court considered under the '621 patent. Defendants request that the Court construe the terms "lock," "hold position," "integral unit," "integrally secured," "single integral unit," as well as the phrase "wherein the body is moved about an axis less than a single rotation as the body is adjusted between the pre-established hold position and the pre-established release position."

1. "lock"

The '472 patent covers the same lock as the one practiced by the '621 patent. Accordingly, the Court finds that Defendants' proposed construction should likewise be adopted here to limit the meaning of the term "lock" consistent with the Court's construction under the '621 patent. The fact that the patents share a specification further supports this conclusion. The term "lock" as it appears in the asserted claims is therefore construed to mean "a device that is pivoted to secure a wear member to a base."

2. "hold position"

As explained under the '621 patent, the term "hold position" is given adequate meaning by the description and context provided by the language of the asserted claims and the corresponding specification. (*See* '472 Patent 12:36–37, 13:26–27, ECF No. 130-6). No additional construction is necessary.

3. "integrally secured" and "integral unit"

The terms "integrally secured" and "integral unit" are provided additional context by the surrounding language in claim 14 as well as the language of the other claims. (*See, e.g.*, *id.* at 12:58–60 (using the phrase "secured to each other")). A person of ordinary skill in the art would therefore understand the plain and ordinary meaning of "integrally secured" and "integral unit." The Court finds that it need not construe either term further.

4. "single integral component"

Similar to the Court's finding that "integrally secured" needs no further construction, the Court also concludes that "single integral component" is understandable on its face to one skilled in the art. The language of asserted claim 14 states that the lock is inserted into the lock opening of a base cavity in order "to define a single integral component with the wear member . . . ." (*Id.*

at 13:20–25). Additionally, claim 18 explains that the "wear member and . . . lock [are] coupled together and maintained as a single integral component through installation and use . . . ." (*Id.* at 14:19–21). Given this additional context, the Court finds that the meaning is clear and construing the term would be redundant.

5. "wherein the body is moved about an axis less than a single rotation as the body is adjusted between the pre-established hold position and the pre-established release position"

Defendants argue that the phrase "wherein the body is moved about an axis less than a single rotation as the body is adjusted between the pre-established hold position and the pre-established release position" should be construed as "wherein the body is pivoted less than 360 degrees to adjust the lock between its pre-established hold and release positions." ESCO, on the other hand, believes that the phrase may be given its plain meaning and needs no additional construction. (AJCCPHS 5).

The Court's finding regarding the construction of the term "lock" as used in the '472 patent is instructive on whether this disputed phrase needs construction. The Court finds that the proper construction of this phrase is "wherein the body is pivoted less than 360 degrees about an axis to adjust between the pre-established hold positon and the pre-established release position."

This construction is supported by the specification. The assembly of the lock mechanism is described multiple times in the specification as having a "pivot member" in the "form of a rounded bulb." (*See* '472 Patent 9:46). The rounded bulb "defines an axis that extends generally in a longitudinal direction relative to the wear assembly" around which the lock "pivotally swings between hold and release positions." (*Id.* at 9:64–65, 10:23–25). Thus, although the claims use the word "single rotation," it is clear that movement about the axis described in the '472 patent must be done pivotally; the specification simply does not contemplate any other

acceptable method whereby the lock moves between the pre-established hold and release positions.

Furthermore, the prosecution history of the '621 patent demonstrates that the lock's movement between the hold and release positions occurs pivotally about the defined axis. In order to distinguish pending claim 31, which issued as independent claim 5, of the '621 patent from the prior art identified in U.S. Patent No. 6,708,431 (filed Dec. 12, 2001) ("Robinson"), ESCO argued that "[c]laim 31 recites that the lock is pivotally moved in the through-hole between the hold and release positions, and that the pivot axis extends in a direction generally parallel to the receipt of the base in the socket." (Ex. J9, ECF No. 139-10, at 1322). ESCO went on to explain that "[i]n Robinson, the plugs 84 are rotated in holes 36a about a central axis. This rotation axis extends laterally relative to the tooth assembly and is generally perpendicular to the receipt of nose 24a into socket 34a." (*Id.*).

ESCO, therefore, believed that the lock's movement under the '621 patent, and by extension under the '472 patent, was not rotational around a central axis. Otherwise, the distinction used to get around the prior art would be meaningless. The lock's pivoting nature was highlighted in an effort by ESCO to show that its movement around the axis described in the '621 patent differed from the rotation taught in Robinson. The Court finds that ESCO's arguments during prosecution lend additional support to the adopted construction. *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013).

F. ESCO's U.S. Patent No. 5,241,765

The '765 patent relates to wear parts that are used on the face of ground engaging equipment such as excavating buckets. The parties dispute the meaning of a single phrase, which appears in claim 12: "keeper extending generally longitudinally for upsettably confining

said lock against the urging of said resilient element." Defendants argue that this phrase is a means-plus-function limitation and is limited to the structures disclosed in certain figures appearing in the '765 patent, or else they believe the phrase is indefinite. (AJCCPHS 9). ESCO contends that the phrase is neither a means-plus-function limitation nor that it is indefinite. ESCO argues that if construction is necessary, the phrase should mean a "member that extends longitudinally to keep a portion of the lock confined by permitting the lock portion to pass by upon compression of the resilient member." (*Id.* 9–10).

35 U.S.C. § 112(f) states:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

"The overall means-plus-function analysis is a two-step process." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296 (Fed. Cir. 2014). "In the first step, [the court] determine[s] if the claim limitation is drafted in means-plus-function format." *Id.* This requires the court to construe the claim limitation "to decide if it connotes 'sufficiently definite structure' to a person of ordinary skill in the art, which requires [the court] to consider the specification (among other evidence)." *Id.* "In the second step, if the limitation is in means-plus-function format, [the court] must specifically review the specification for 'corresponding structure.'" *Id.*

When a claim term lacks the term "means," "it creates a rebuttable presumption that Section 112, ¶ 6 does not apply." *Id.* at 1297. "This presumption may be overcome if the claim fails to recite 'sufficiently definite structure' or merely recites a 'function without reciting sufficient structure for performing that function.'" *Id.* (quoting *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319 (Fed. Cir. 2004)). However, "the presumption flowing from the absence of the term 'means' is a strong one that is not readily overcome." *Lighting World,*

Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed. Cir. 2004). When the word "means" is absent from a claim, the party advocating a means-plus-function construction has the burden of overcoming the presumption by a preponderance of the evidence. *Apple Inc.*, 757 F.3d at 1298.

In this case, the term "means" does not appear in claim 21, which states in relevant part: "one of said parts further including a keeper proximate said opening, said keeper extending generally longitudinally for upsettably confining said lock against the urging of said resilient element." ('765 Patent 13:34–37). The first question for the Court, then, is whether Defendants have carried their burden of demonstrating that the claim fails to recite sufficient definite structure for the term "keeper." *Linear Tech. Corp.*, 379 F.3d at 1319–20. They have not.

The specification shows that "keeper" as used in the '765 patent connotes a sufficiently definite structure. In one particular embodiment, the "[l]oss of the lock upon force application is avoided . . . through the use of a keeper as at 246 which is provided in the wear part 230 but as is common with the previously described embodiments, in connection with the groove means 238." ('765 Patent 6:48–54, ECF No. 130-5). The corresponding figure depicts a small structure positioned so as to prevent the lock from slipping through. (*See id.* at Fig. 12). In another embodiment, the specification states that "the wear part is equipped with a keeper 146 and the base part 129 is equipped with notches 131a." (*Id.* at 5:66–68). Figure 9 and Figure 11 both show keeper 146 as a small structure that is part of the wear member. (*See id.* at Figs. 9, 11).

Likewise, the specification explains that "[p]lug 347 is advantageously bonded to the basic metal block shape of the lock 340. This permits retraction of the latch part 345 *so as to pass by the keeper* 346 while pivoting around the arcuate projection 348 as shown in FIG. 19." (*Id.* 8:26–30 (emphasis added)). The keeper's structure is discussed further as extending

"generally between the base part transverse wall 41, 241a and the wear part one transverse wall 42, 342a for upsettably confining the lock means . . . ." (*Id.* at 10:44–47). It is therefore clear that keeper, as used in claim 21, is a structure and not a means-plus-function limitation, and Defendants have not carried their burden to prove otherwise.[2]

The Court also finds that the term "keeper" and the phrase in which it is used are not indefinite. As stated, a claim is indefinite only if "it does not reasonably apprise those skilled in the art of its scope." *IPXL Holdings, L.L.C.*, 430 F.3d at 1383–84. Here, the claim language and specification provide sufficient context to reasonably apprise one skilled in the art about the scope of the term "keeper." Claim 21 teaches that the keeper is "proximate" to the "rectangular opening" of the wear part's surface and the keeper extends "generally longitudinally" to confine the lock against the "urging" of the resilient element. ('765 Patent 14:11–37). The written description adds that the keeper "extends generally between the base part transverse wall 41, 341a and the wear part one transverse wall 42, 342a . . . ." (*Id.* at 10:43–47). The corresponding figures show the particular configuration that the keeper would take in order to embody the specification as well as conform to claim 21. (*See* Figs. 2, 5, 11, 19, 20). This additional context demonstrates that the keeper identified in claim 21 is not open to "hundreds" of different constructions as Defendants suggest. *See Nautilus, Inc.*, 134 S. Ct. at 2129 (stating that the inquiry is whether in light of the specification and prosecution history those skilled in the art would have "reasonable certainty" regarding the scope of the claim). Therefore, the Court finds

[2] Defendants also identify prosecution history that they argue demonstrates the means-plus-function limitation of the disputed claim. (*See* Defs.' Opening Claim Construction Brief 70, ECF No. 140). The history includes ESCO's arguments that the "keeper" of the '765 patent extends between the transverse walls of the base part and wear part whereas the keeper of the prior art "is clearly along one transverse wall." (*See* Ex. J17, ECF No. 139-20, at 17937). The Court finds Defendants' arguments pertaining to this prosecution history unpersuasive. It is unclear how this statement bears on the means-plus-function discussion, especially since the history is silent on why the patent examiner ultimately determined that the '765 patent was distinguishable from the prior art.

that neither the term "keeper" nor the phrase in which it appears is indefinite. The Court also finds that no construction is necessary.

G. CAT's U.S. Patent No. 7,762,015

The '015 Patent discloses portions of CAT's CapSure® system. The parties dispute the meaning of three terms found within claim 17 of the '015 Patent. These terms are: "lock," "retainer bushing," and "retainer bushing being made of plastic."

1. "lock"

The parties seem to agree that "lock" as it appears in the '015 Patent should be given its plain and ordinary meaning and needs no construction. (*See* AJCCPHS 10). The Court is also in agreement. The claim language plus the context provided in the specification define what "lock" means when used in claim 17, (*see* '015 Patent 3:13–20, 10:1–3), and any additional construction by the Court is unnecessary.

2. "retainer bushing"

The parties agree that the term "retainer bushing" requires construction. ESCO proposes that it be construed to mean "hollow casing to receive and retain a lock." (AJCCPHS 10). Defendants' proposed construction is slightly different. They suggest that it be construed as a "bushing placed around a portion of the lock used to hold the lock in place." (*Id.*). The Court finds that neither of these definitions is quite accurate.

The language of claim 17 does not further define "retainer bushing" beyond stating the type of material of which the bushing should be made, as discussed in the next section. Claim 17 does teach that the lock is "rotatably positioned" within the retainer bushing and that a "portion of the retainer bushing overlap[s] a portion of the lock to releasably retain the lock within the retainer bushing." ('015 Patent 10:1–6, ECF No. 137-7).

The specification is also not forthcoming with descriptions of the "retainer bushing." It states, however, that "[l]ock 20 may be placed in lock cavity 41 directly, or a retainer bushing 30 may be disposed around a portion of lock 20, and disposed between the lock 20 and lock cavity 41." (*Id.* at 3:17–20). Thus, it appears that the retainer bushing need not encompass the entire lock, but only a portion thereof.

Defendants argue that there is no reason that the retainer bushing must be a "hollow casing" as ESCO suggests. The bushing, however, must provide some sort of casing so that the lock may rotate within the bushing as stated in claim 17. Each figure depicting the preferred embodiment shows the "retainer bushing" as a cylindrical-shaped object into which the lock may be inserted. (*See id.* at Figs. 4, 22a, 22b, 22c, 22d, 22e). Moreover, "bushing" encompasses a particular meaning in this field, as evident by its appearance in technical dictionaries. *See Linear Tech. Corp.*, 379 F.3d at 1320 (stating that technical dictionaries are evidence of the understandings of persons of skill in the technical arts). In one such dictionary, "bushing" is referred to as a "sleeve," or a "cylindrical part designed to fit over another part." McGraw-Hill Dictionary of Scientific & Technical Terms (6th ed. 2002).

In the non-technical setting, "bushing" is similarly defined as "a removable lining or sleeve of metal or other material that is inserted or screwed into an opening (as of a mechanical part) to limit its size, reduce wear or erosion, or serve as a guide." Webster's Third Int'l Dictionary (4th ed. 1976); *see also* Am. Heritage Dictionary of the English Language (4th ed. 2000) (defining "bushing" as "[a] fixed or removable cylindrical metal lining used to constrain, guide, or reduce fiction").

Based on the claim language, specification, and extrinsic sources, the Court finds that "bushing" is properly defined as "a cylindrical sleeve," and that "retainer bushing" as used in

claim 17 of the '015 patent is properly construed to mean "a cylindrical sleeve to be rotated around a portion of the lock to hold the lock in place."

3. "retainer bushing being made of plastic"

ESCO argues that the phrase "retainer bushing being made of plastic" should be given its plain meaning as to the term "plastic." (AJCCPHS 10). Defendants argue that it should be construed to mean "retainer bushing being made of flexible material." Essentially, the parties dispute whether this phrase should be taken literally or whether "plastic" is merely a placeholder for other suitable materials. The Court agrees with ESCO.

Claim 17 includes "a retainer bushing positioned within the lock cavity, the retainer bushing being made of plastic . . . ." ('015 Patent 9:66–67). The specification elaborates quite a bit regarding the composition of the retainer bushing:

> Retainer bushing 300 can be formed from plastic or any other suitable material. If formed from plastic, it may be desirable to produce it through injection molding. Lock 200 can be formed from steel or any other suitable material. If both tip 400 and lock 200 are formed of steel, then having a plastic retainer bushing 300 creates certain benefits. First, a plastic retainer bushing can prevent metal-to-metal contact, and the wear mechanisms commonly exhibited with such contact. Second, a plastic retainer bushing can help prevent corrosion or other processes between the tip and the lock which, over time could cause the lock to seize in the tip and make the lock difficult to rotate . . . . Third, a plastic retainer bushing which can deflect more easily than steel can allow a retaining relationship between the tip and the retainer bushing, and the lock and the retainer bushing . . . . Thus, the choice of plastic to form the retainer bushing 300 can be particularly advantageous.

(*Id.* at 4:59–5:10).

Despite this lengthy explanation, the claim language itself recites only that the retainer bushing be "made of plastic." It does not state that the bushing may be made of plastic "or any other suitable material," as would be expected given the discussion in the specification. The Court cannot adopt Defendants' proposed construction because it removes the term "plastic,"

which is the word the patentee actually used in the claim, from the definition altogether. While "flexible materials" may encompass "plastic," the Court will not substitute or exchange the terms where the patentee chose not to do so.

Nevertheless, Defendants argue that the inventor was acting as his own lexicographer and by stating "the retainer bushing made of plastic" he essentially meant that it should be made of any flexible material. Defendants point out that the specification does allow for "any other suitable material." While patentees are permitted to act as their own lexicographers, there must be some indication that a special definition is being created, either explicitly or implicitly through consistent usage in the specification. *Vitronics*, 90 F.3d at 1582 ("Although words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.").

In this case, there is no indication that the patentee was creating a special definition for the term "plastic." The term is used consistently throughout the specification with no signal that the term encompasses anything other than its plain and customary meaning. *C.f. Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) (finding that the specification's use of "i.e." signaled an intent to define the word to which it referred and that definition was not limited to the embodiment discussed); *Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1135–37 (Fed. Cir. 2007) (finding that the patentee acted as his own lexicographer where the specification expressly defined "controlled amount").

In fact, rather than incorporating all materials from which the retainer bushing might suitably be made into the term "plastic," the patentee acknowledged that plastic was but one type of material that would provide the benefits discussed in the specification. ('015 Patent 4:59–60

(stating that the retainer bushing "can be formed from plastic *or any other suitable material*") (emphasis added)). The Court, therefore, finds that "plastic" as used in claim 17 should not be construed to mean "flexible material," but that it should be left to its plain and ordinary meaning.

H. CGM's U.S. Patent No. 6,565,146

The '146 patent relates to a dump truck body having curved surfaces that are joined together. ESCO disputes the meaning of two terms found in claims 1 and 16 of the '146 patent: "curved" and "joined." Defendants argue that these terms are clear and should be given their plain and ordinary meanings. ESCO, however, contends that "curved" should be construed to mean "substantially continuous curvature from edge to edge along the payload-facing surface." (AJCCPHS 11). ESCO further suggests that "joined" be construed to mean "connected directly to (i.e. without intermediary parts)." (*Id.*). The Court finds that these terms are readily understood by a person of ordinary skill in the art and need no additional construction given the context of surrounding claim language and the accompanying specification.

CONCLUSION

IT IS HEREBY ORDERED that the disputed terms of the various patents-in-suit be construed as follows:

A. ESCO's U.S. Patent No. 7,640,684

1. "opening being through the retainer" – "opening being a fully enclosed hole that extends through the retainer"
2. "pin" – "an elongated body that is externally threaded"
3. "positioned" – No construction

B. ESCO's U.S. Patent No. 7,178,274

1. "lock" – No construction
2. "body" – No construction
3. "shank" – No construction
4. "non-circular cross sectional configuration" – No construction

5. "resilient part" – "a part of a body that returns to its original shape after being deformed."

C. ESCO's U.S. Patent No. RE43, 693

1. "peripheral outline" – "a shape and size that allows insertion of a lock through the hole"
2. "lock" – No construction
3. "locking member" – "the movable part of a lock that has a non-circular stem"
4. "opening defining a passage" – "a fully enclosed passage that extends through the retainer"
5. "non-circular" – No construction

D. ESCO's U.S. Patent No. 8,122,621

1. "lock" – "a device that is pivoted to secure a wear member to a base"
2. "integrally connected/integrally secured" – No construction
3. "hold position" – No construction
4. "alternatively secured" – Not indefinite, "wherein the lock is secured to the wear member in either the hold or release positions"

E. ESCO's U.S. Patent No. 8,689,472

1. "lock" – "a device that is pivoted to secure a wear member to a base"
2. "hold position" – No construction
3. "integral unit" – No construction
4. "wherein the body is moved about an axis less than a single rotation as the body is adjusted between the pre-established hold position and the pre-established release position" – "wherein the body is pivoted less than 360 degrees about an axis to adjust between the pre-established hold positon and the pre-established release position"
5. "integrally secured" – No construction
6. "single integral component" – No construction

F. ESCO's U.S. Patent No. 5,241,765

1. "keeper extending generally longitudinally for upsettably confining said lock against the urging of said resilient element" – Not a means-plus-function limitation, not indefinite, no construction

G. CAT's U.S. Patent No. 7,762,015

1. "lock" – No construction
2. "retainer bushing" – "a cylindrical sleeve to be rotated around a portion of the lock to hold the lock in place"
3. "retainer bushing being made of plastic" – No construction

H. CGM's U.S. Patent No. 6,565,146

1. "curved" – No construction
2. "joined" – No construction

IT IS SO ORDERED.

Dated: May 12, 2015

ROBERT C. JONES
United States District Judge